



Zero Emission Oven Doors through Advanced Cleaning

6th Annual EuroCoke Summit 2010 - Lisbon

Zero Emission Oven Doors Through Advanced Cleaning



- Advanced Cleaning Solutions – Why?
- Door Cleaning Technologies
- Frame Cleaning Technologies
- Performance Results & Available Gains



Zero Emission Oven Doors Through Advanced Cleaning



ADVANCED CLEANING SOLUTIONS – WHY?

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- Particulate Matter (PM)
- Carbon Monoxide (CO)
- Sulfur Dioxide (SO₂)
- Hydrogen Sulfide (H₂S)
- Ammonia (NH₃)
- Benzene
- Benzo(a)pyrene (BaP)

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Classification of Door Leaks – UK Basis

- Grade 0 – No Leak
- Grade 1 – Minor Leak
- Grade 2 – Significant Leak
- Grade 3 – Severe Leak
- Grade 4 – Extremely Severe Leak

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Classification of Door Leaks – UK Basis

➤ Grade 0 – No Leak

No visible emission.

➤ Grade 1 – Minor Leak

Emission of “wispy” smoke from no more than two points of source

➤ Grade 2 – Significant Leak

Emission of smoke from several points or more appreciable trail of smoke from a single point.

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Classification of Door Leaks – UK Basis

➤ Grade 3 – Severe Leak

Emission of smoke in a thick stream retaining opacity some distance from source.

➤ Grade 4 – Extremely Severe Leak

Copious smoke emission effecting the working environment of several adjacent ovens or flame likely to cause mechanical deterioration.

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Classification of Door Leaks – UK Basis

- Doors are Monitored on a daily basis
- Leakage Performance Calculations performed
- Performance Graphs created
- Historic Graphs used for Trouble Shooting
- Performance Graphs audited by Local EA



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DOOR CLEANING TECHNOLOGIES

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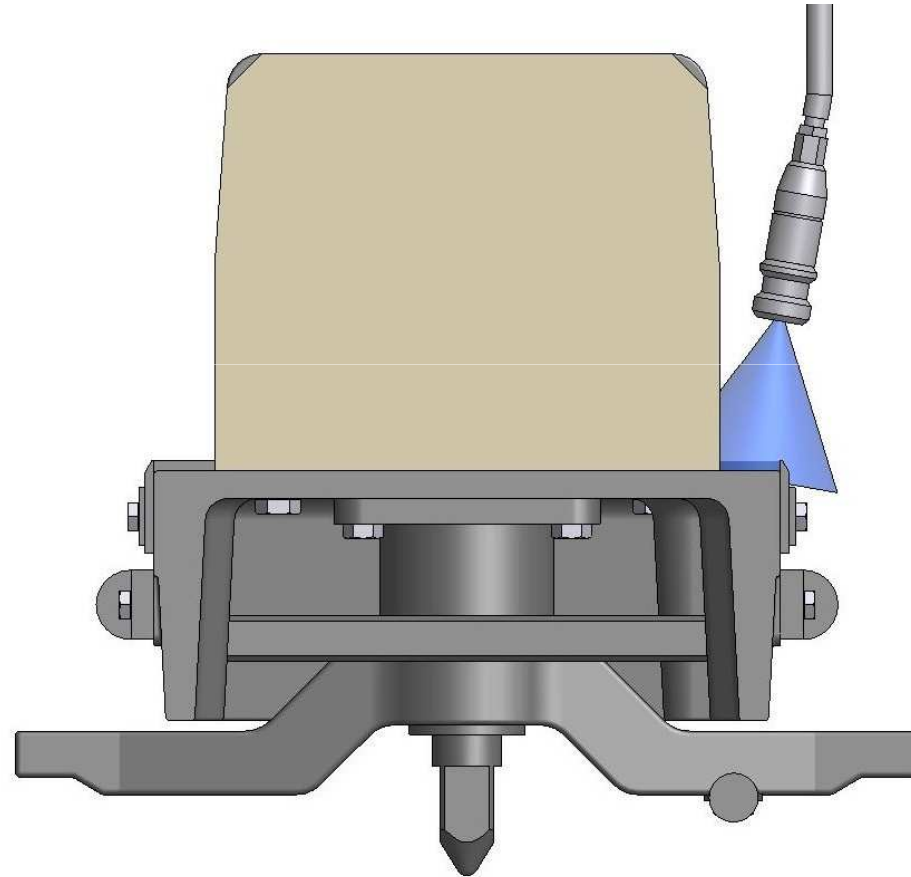
Types of Door Cleaner

- Water Jet Cleaning
- Combined Water & Mechanical Cleaning
- Mechanical Cleaning

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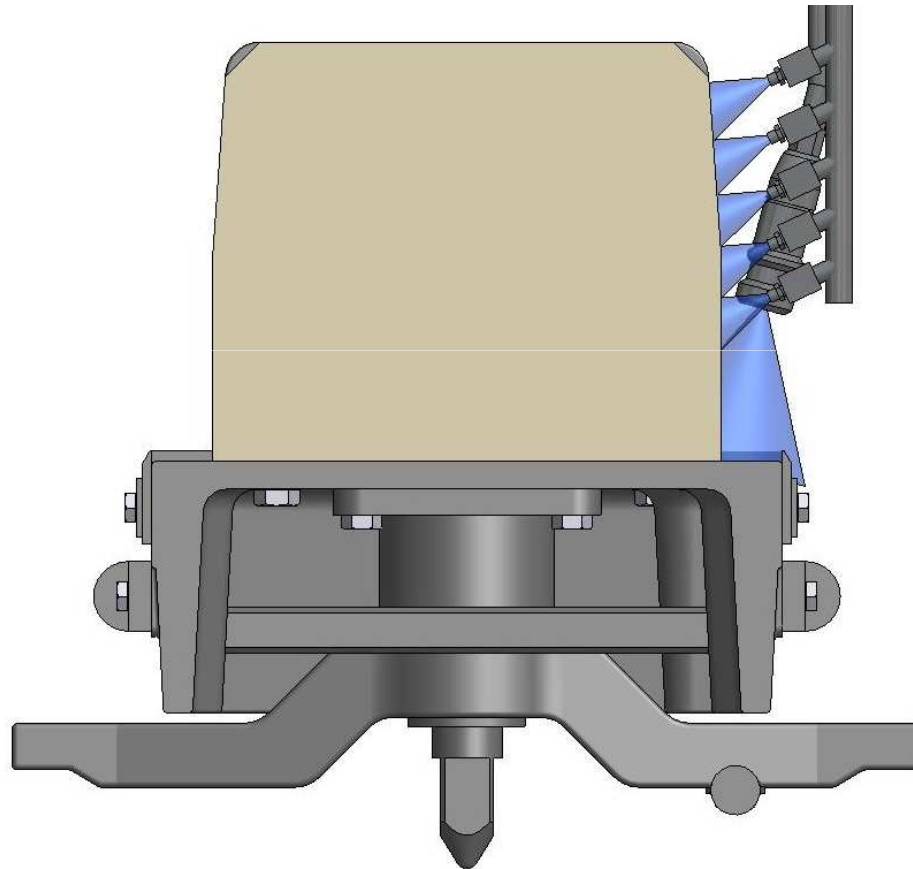
Water Jet Cleaning of Gas Channel



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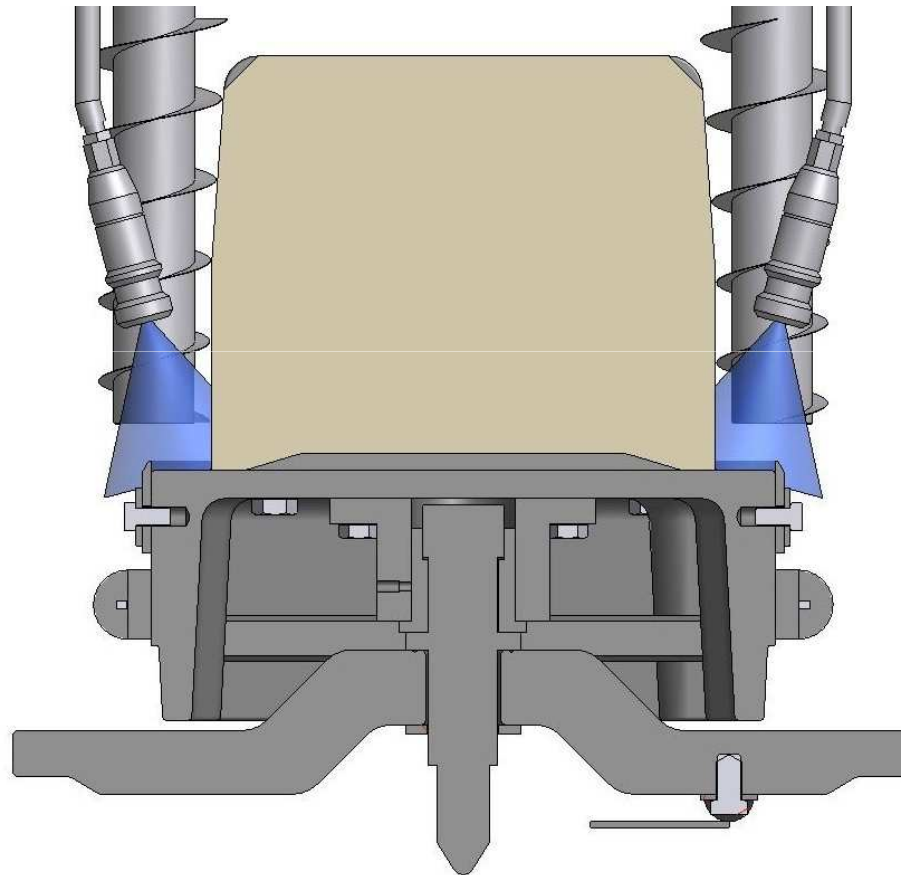
Water Jet Cleaning of Gas Channel & Plug



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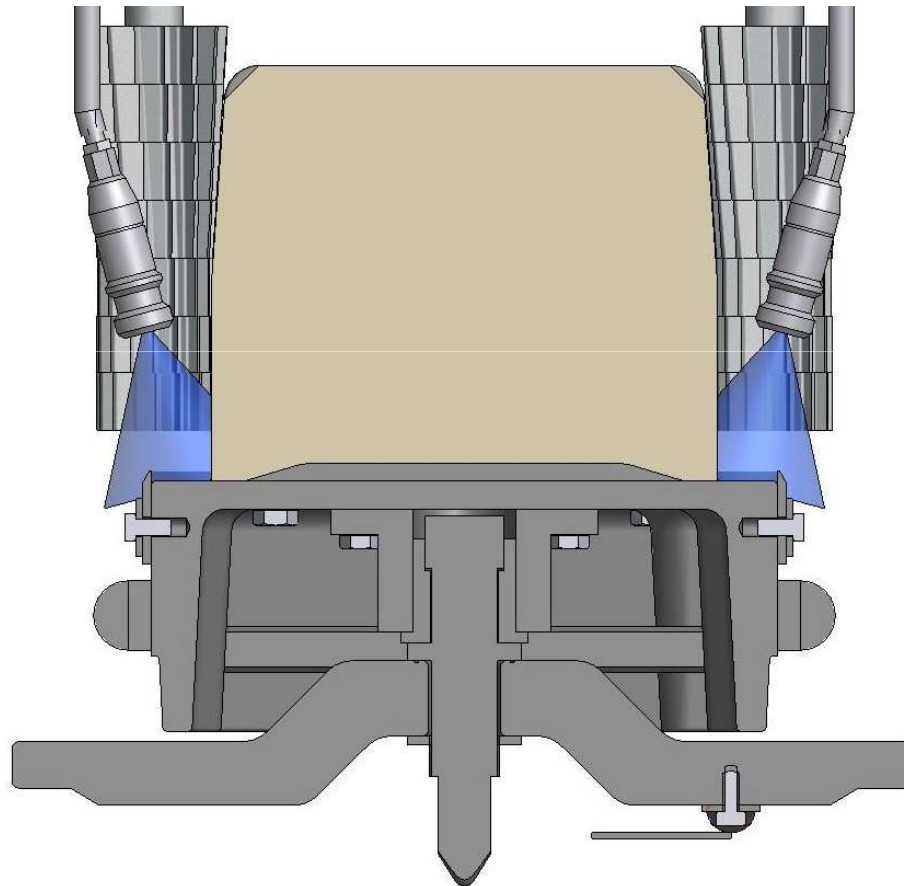
Water Jet / Mechanical Cleaning of Gas Channel & Plug



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Water Jet / Mechanical Cleaning of Gas Channel & Plug

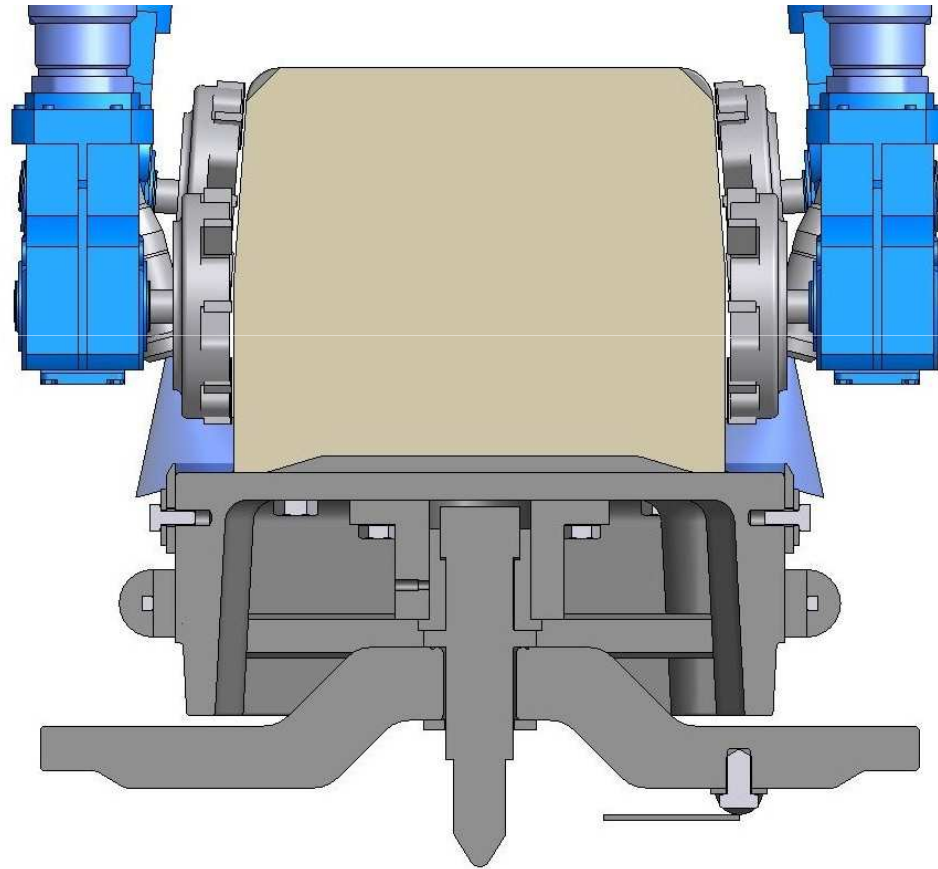


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Water Jet / Mechanical Cleaning of Gas Channel & Plug

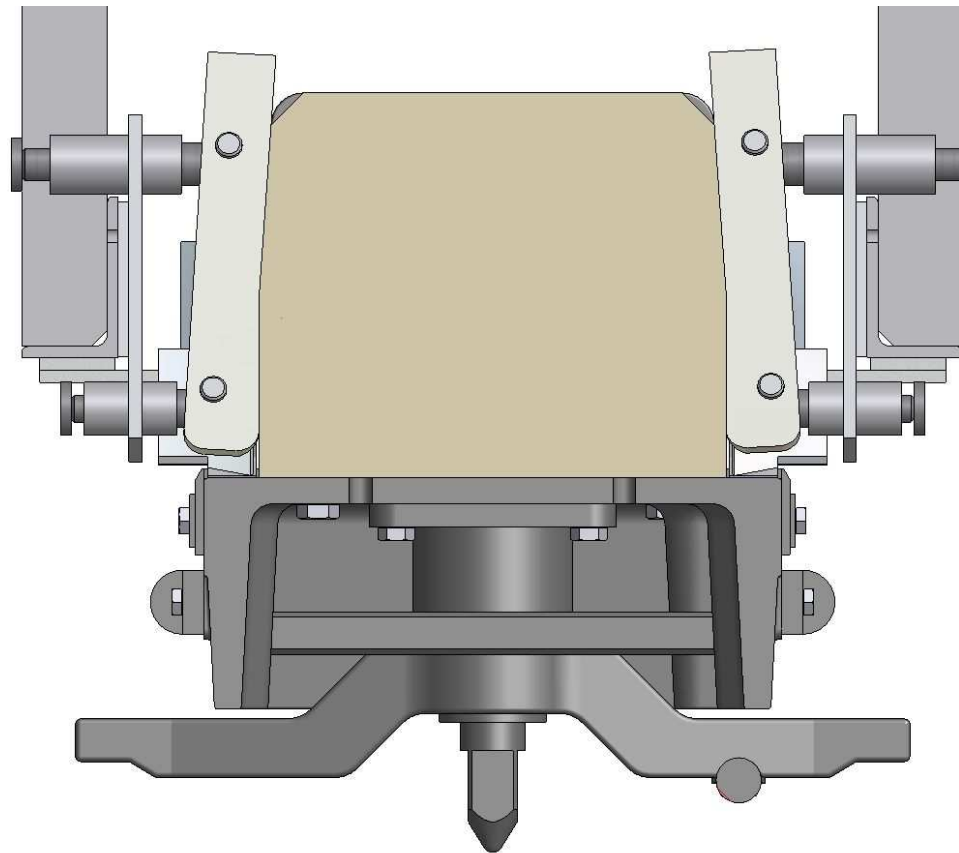


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Mechanical Cleaning of Gas Channel & Plug





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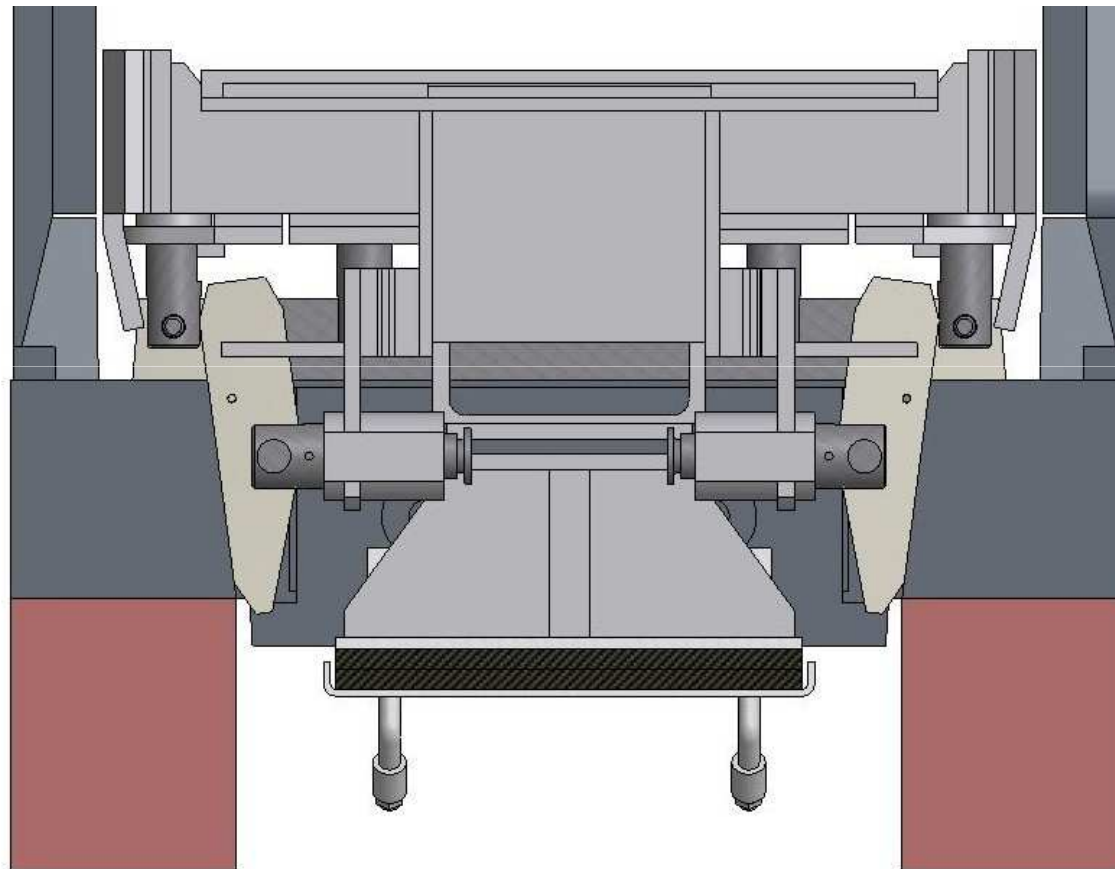


FRAME CLEANING TECHNOLOGIES

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Frame Cleaning





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PERFORMANCE RESULTS & AVAILABLE GAINS

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Water Jet Door Cleaning

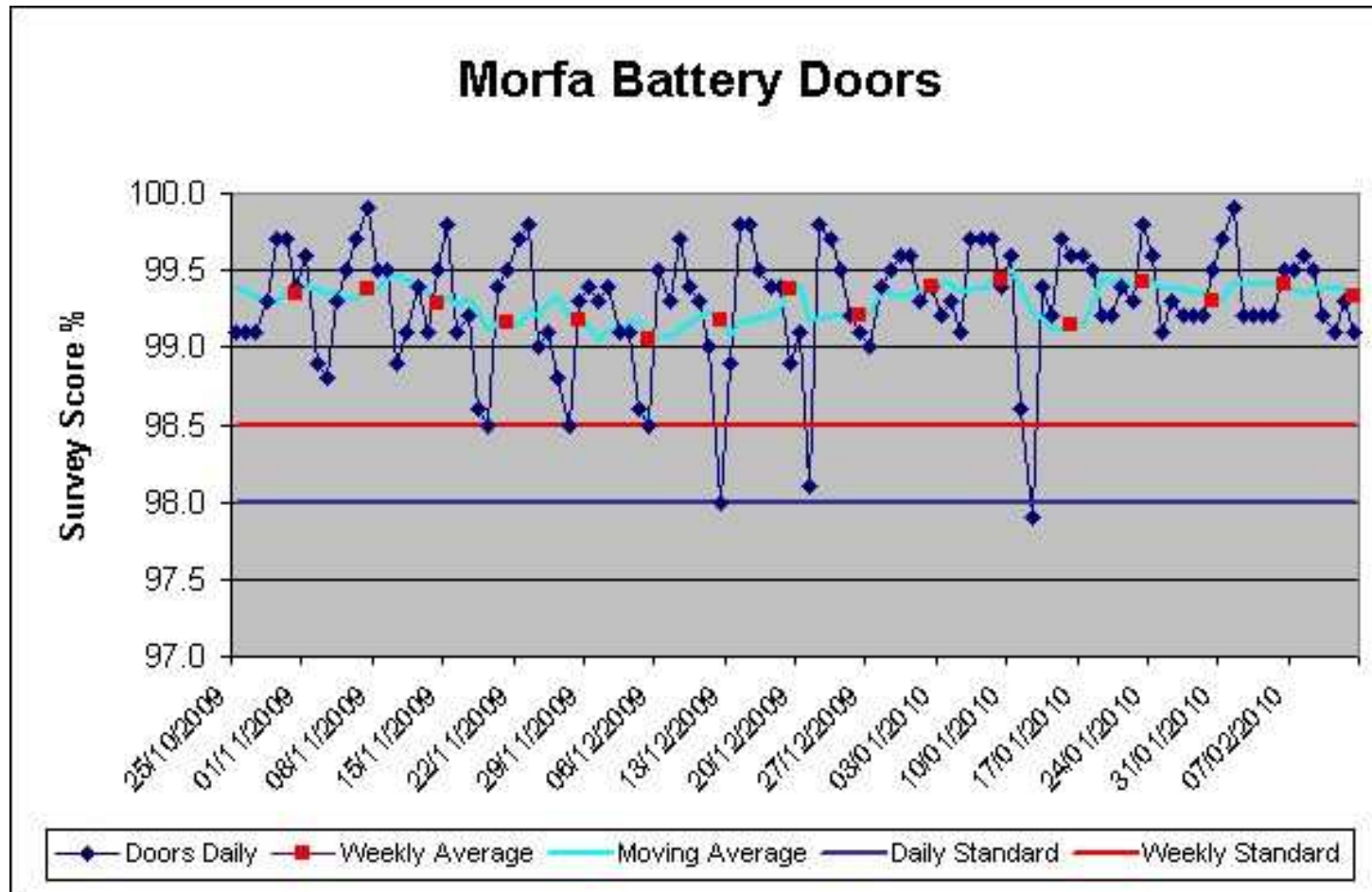


BEFORE CLEANING



AFTER CLEANING

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